

REMARKS

The Office Action dated April 18, 2007 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1-16 are currently pending in the application. Claims 1 and 10 have been amended to more particularly point out and distinctly claim the subject matter of the invention. No new matter has been added. Claims 12-14 and 16 have been previously withdrawn pursuant to a restriction requirement. Therefore, claims 1-11 and 15 are respectfully submitted for consideration.

As a preliminary matter, a certified English translation of the foreign application is enclosed.

Claims 1-3, 5, 7, 9-11, and 15 were rejected under 35 U.S.C. §102(b) as being anticipated by Yasuda (U.S. Patent No. 5,820,898). The rejection is respectfully traversed for at least the following reasons.

Claim 1, upon which claims 2-9 and 11 are dependent, recites a mold for molding. The mold includes a mirror-surface disc, a stamper having a hole formed at its center and attached to a front end surface of said mirror-surface disc, and an inner holder for holding the stamper by means of press fit into the hole. In the course of the press fit, at least either said stamper or said inner holder is subjected to stress in excess of its yield point and plastically deformed.

Claim 10, upon which claim 15 is dependent, recites a mold for molding. The mold including a first mold assembly, a second mold assembly disposed in such a manner as to be able to advance toward and retreat from said first mold assembly, an insert disposed in at least either said first or second mold assembly, and an inner holder for disposing said insert. In the course of press fit, at least either said insert or said inner holder is subjected to stress in excess of its yield point and plastically deformed.

As a result of the embodiments outlined above, the present invention provides several advantages. For example, since the inner holder is press-fitted into the hole of the stamper to thereby hold the stamper, the need to form a holding portion at the outer circumferential edge of the front end of the inner holder is eliminated. Accordingly, an associated groove is not formed on the disc substrate. Thus, a print region on the disc substrate can be increased in area. Furthermore, since the holding portion is not formed, the cavity is not narrowed. As such, a molding material charged into the cavity exhibits good fluidity, thereby preventing formation of flow lines on the surface of the disc substrate and preventing warping of the disc substrate. As a result, quality of the disc substrate can be enhanced. Additionally, since no clearance is formed between the stamper and the inner holder, generation of burrs on the disc substrate can be prevented. Since the stamper does not radially go off center, the information region and the disc substrate become concentric, thereby enhancing quality of the disc substrate. Other advantages may also be achieved as a result of the present invention.

As will be discussed below, Yasuda fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the advantages/features discussed above.

Yasuda discloses a metal mold apparatus for molding an optical disk. The metal mold apparatus includes a fixed cavity plate, a movable cavity plate facing the fixed cavity plate, a disk-shaped plate disposed on at least one of the fixed and movable cavity plates such that it is movable with respect to the cavity plates, a stamper plate concentrically supported on the at least one of the fixed and movable cavity plates by the disk-shaped plate such that it is movable with respect to the disk-shaped plate and at least one of the fixed and movable cavity plates. The stamper plate and the disk-shaped plate configured such that a difference between respective deformations of the disk-shaped plate and the stamper plate caused by expansion and contraction thereof due to temperature changes during a molding cycle is smaller than a difference between respective deformations of the stamper plate and the at least one of the fixed and movable cavity plates caused by expansion and contraction thereof due to temperature changes during a molding cycle if the stamper plate were to be in direct contact with at least one of the fixed and movable cavity plates.

Applicants respectfully submit that Yasuda fails to disclose or suggest all of the elements of the present claims. For example, Yasuda does not disclose or suggest “an inner holder for holding said stamper by means of press fit into said hole,” wherein, “in the course of said press fit, at least either said stamper or said inner holder is subjected to stress in excess of its yield point and plastically deformed,” as recited in claim 1.

Similarly, Yasuda does not disclose or suggest “an inner holder for disposing said insert,” wherein, “in the course of press fit, at least either said insert or said inner holder is subjected to stress in excess of its yield point and plastically deformed,” as recited in claim 10.

According to an example of the present invention, in the course of press fit, at least either the inner holder 60 or the stamper 29 is subjected to stress in excess of a yield point of a material used to form the holder 60 or the stamper 29. As a result, the holder 60 or the stamper 29 is plastically deformed (Specification, page 15, line 19 – page 16, line 6 and Figure 3). Yasuda, on the other hand, fails to disclose or suggest that, during the press fit, either the insert or inner holder are subjected to stress in excess of their yield point and plastically deformed.

Yasuda merely discloses that a slight relative movement ΔL of the stamper plate 29 with respect to the disk-shaped plate 30 is expressed by $\Delta L = \Delta L_1 - \Delta L_2 = \beta_1 \times \Delta t_1 - \beta_2 \times \Delta t_2$. Therefore, in order to minimize the slight movement ΔL , Yasuda discloses that the linear expansion coefficient β_2 of the disk-shaped plate 30 must be at least equal to or larger than the linear expansion coefficient β_1 of the stamper plate 29 according to the relationship of $\Delta t_1 > \Delta t_2$ (Yasuda, Column 6, lines 39-62).

Therefore, Yasuda does not disclose or suggest “an inner holder for holding said stamper by means of press fit into said hole,” wherein, “in the course of said press fit, at least either said stamper or said inner holder is subjected to stress in excess of its yield

point and plastically deformed," as recited in claim 1 and similarly recited in claim 10.

Thus, Applicants respectfully request that the rejection of claims 1 and 10 be withdrawn.

Claims 2-9, 11, and 15 are dependent upon claims 1 and 10, respectively. Accordingly, claims 2-9, 11, and 15 should be allowed for at least their dependence upon claims 1 and 10, and for the specific limitations recited therein.

The Office Action indicated that claims 4, 6, and 8 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, as outlined above, Applicants submit that the cited references fail to disclose or suggest all of the elements of the present claims. Accordingly, Applicants submit that claims 4, 6, and 8 should be allowed in their current form.

Applicants respectfully submit that the cited prior art fails to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 1-11 and 15 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosure: Certified English translation of Japanese priority document